IN THE CLAIMS:

1. (Currently Amended) A portable device ~~for detection of fluorescence in a sample containing a fluorophore~~, comprising:

a lateral flow strip configured to receive a sample and comprising a detection zone configured to immobilize a fluorescent compound, a presence or absence of the fluorescent compound being indicative of the presence or absence of an analyte in a sample received by the lateral flow strip;

~~(a)~~ ~~a~~ at least one light source ~~for emitting light for exciting the fluorophore, wherein said light is of a defined wavelength range; and~~ configured to excite fluorescence from the fluorescent compound if present in the detection zone;

~~(b)~~ a two dimensional photodetector ~~for detecting emitted light from the excited fluorophore.~~ comprising a first plurality of detector elements, each detector element of the first plurality of detector elements being configured to receive fluorescence from a respective portion of the detection zone, and wherein the two dimensional photodetector is configured to produce at least one photodetector signal indicative of fluorescence received by the two dimensional photodetector; and

a processor configured to receive the at least one photodetector signal and to determine the presence or absence of the analyte based at least in part on the photodetector signal.

Claims 2 - 39 (Canceled)

40. (New) The device of claim 1, wherein:

the lateral flow strip further comprises a control zone configured to immobilize the fluorescent compound regardless of the presence of the analyte in the sample received by the lateral flow strip;

the at least one light source is further configured to excite fluorescence from the fluorescent compound if present in the control zone; and

the two dimensional photodetector further comprises a second plurality of detector elements, and each detector element of the second plurality of detector elements is configured to receive fluorescence from a respective portion of the control zone.

41. (New) The device of claim 40, wherein the control zone is spaced apart from the detection zone.

42. (New) The device of claim 1 wherein the device is configured to operate the at least one light source, the two dimensional photodetector, and the processor while consuming less than about 120 mW of power.

43. (New) The device of claim 1, wherein the at least one light source includes a plurality of light sources and each light source of the plurality of light sources is configured to excite fluorescence from a respective region of the lateral flow strip.